COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS.

U. S. Department of Agriculture
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EXTENSION WORK WITH WOMEN no. 5

SUGGESTIONS FOR HOME DEMONSTRATION AGENTS REGARDING
FUEL CONSERVATION IN HOUSE LIGHTING.

The following outline, compiled by the United States Fuel Administration offers valuable suggestions that may readily be used as the basis of a lecture demonstration on conservation of fuel through household lighting, if adapted to suit local conditions. The agent may perhaps in addition suggest checking up the actual saving of gas and electric current accomplished by reading the household meter at regular intervals. Interesting possibilities in the way of illustrative material for such a talk will suggest themselves, as for example light diffusing and light absorbing shades, efficient and inefficient gas burners and electric lamps, direct and indirect lighting systems, and the like. Much of the material may be adapted for use in localities where kerosene lamps are used. Lighting companies and dealers in lighting fixtures will probably be glad to cooperate by loaning exhibit material and making helpful suggestions. The agent is cautioned however against any action that may appear to advertise exclusively the products of any particular concern. She should invite the cooperation of all local dealers, and discuss types and not makes of fixtures.

The outline contains valuable suggestions as to methods of procedure, that might be adapted for use in community or county fuel-saving projects. An outgrowth of such a project should be a record of the amount of gas, electricity or oil actually conserved over a definite period of time by the households taking part in the project.

Very truly yours,

Florence E. Ward

Introductory

A. Conservation of fuel by conservation of light is a war measure. Set forth the relation of coal to steel; and steel to war.

B. Proper conservation of light means also

1. More efficient illumination;

2. Better eyesight: Proper conservation, as advocated by the United States Fuel Administration does NOT mean light at expense of eyesight.

3. Lower light bills.

In Public Places

A. "Light enough and just enough for the period of the war" is the principle of lighting now applied in public places.

B. Lightless Night Order of United States Fuel Administration.

C. Voluntary conservation of light by hotels

1. Taking out 1/3 bulbs:

2. Hanging tag over empty socket: "This lamp has been removed at the request of the United States Fuel Administration to save coal;"

3. Amount of fuel to be saved_____

What Homes Are Asked to Do

A. Apply same principle of lighting as above--i.e. save 1/3 unless use of light has already been reduced to economical minimum. Figuratively speaking, tag the lights. Good Americans and Light Conservation. Gasolineless Sunday shows the immediate response of American public to patriotic need. When householders realize great coal waste in illumination, will make same response. Every woman is eager to do her part. Needs only to be told how.

B. Relation of light to fuel.

1. Artificial gas generated by coal

2. Electric power generated by coal

C. Estimate of possible saving.

1. Gas. Five incandescent burners substituted for open flame burners in use four hours a day will save in one year approximately one ton of fuel.

2. Electricity. Each 40-watt lamp burning on an average 4 hours a day, uses 272.6 pounds of coal a year. Eliminating 8 40-watt lamps from a home means saving 1 ton of coal a year.

How to Save Light in Home

A. In family-gathering rooms, viz, living room, dining-room and kitchen.

1. Living Room: "Back to the family living room". Concentrate the evening life of the family in this room. Tendency of members of modern families to work in own rooms.

a. Use an efficient scientific table lamp for reading, study and all work requiring concentration of light on work. When close work is being done use table lamp and turn out side lights and over-head lights or at least 1/3 of overhead. For general illumination, eliminate the table lamp and burn only overhead lights and use only 1/3 of bulbs unless waste has already been cut out. Do not use side lights unless room has no other fixtures in which case attach a drop light to the fixture or equip fixture with proper light-diffusing glass shade. Side lights mean cross lighting, harmful to the eyes. When used for purely decorative purposes, side lights are unpatriotic and expensive because not essential.

b. Efficient, scientific table lamp requires

(1) At least a 40-watt lamp if there is only 1 socket in lamp; two 25-watt lamps if it has 2 sockets;

(2) Shade that conceals light source form the eyes,

(3) Shade of a shape (e.g. mushroom) that distributes light evenly over table surface;

(4) Shade of material that does not absorb light--should be translucent, not transparent nor opaque. Silk is wasteful because it absorbs light, especially if silk is dark. If it is yellow silk outside and lined with highly glazed satin or white silk, it may be efficient. Art glass is very wasteful--the stained glass is thick

What is possible?

a. Use. Five incandescent burners substituted for open burners in [illegible] day will save in one year approximately [illegible].

b. Electricity. Each 40-watt lamp burning on an average 6 hours a day, uses 292.5 pounds of coal a year. Eliminating a 40-watt lamp from a home means saving 1 ton of coal a year.

How to Have Light in Home

a. In family-gathering rooms, viz. living room, dining-room and kitchen.

1. Living Room: "Back to the family living room". Concentrate the evening life of the family in this room. Tendency of members of the family to retire to their own rooms.

a. Use an efficient scientific table lamp for reading, study and all work requiring concentration of light on work. When close work is being done use table lamp and turn out side lights and over-head lights or at least 1/3 of overhead. For general illumination, eliminate the table lamp and burn only overhead lights and use only 1/3 of bulbs unless work has already been cut out. Do not use side lights unless room has no other fixtures in which case attach a drop light to the fixture or equip fixture with proper light-diffusing glass shade. Side lights mean cross lighting, harmful to the eyes. When used for purely decorative purpose, side lights are unsanitary and expensive because not essential.

b. Efficient scientific table lamp requires

(1) At least a 40-watt lamp if there is [illegible] reader in lamp; two 25-watt lamps if it has [illegible] sockets.

(2) Shade that conceals light source from the [illegible].

(3) Shade of a shape (e.g. mushroom) that distributes light evenly over [illegible].

(4) Shade of material that does not absorb light should be translucent, not transparent nor opaque. Silk is wasteful because it absorbs light, especially if silk is dark. If [illegible] silk shade and lined with glazed [illegible] or white silk, it may be efficient. Acetate is very wasteful [illegible]

and absorbs the light. Old-fashioned porcelain in amber tones is best. Green porcelain also is good. Metal shades are heating to the eyes unless used at a proper distance from the eyes.

c. For general illumination

(1) Semi-indirect or wholly indirect lighting is best because of its even distribution of light to all parts of a room, thus obviating the necessity for using side and table lights to get sufficient general illumination. With these systems, walls and ceilings should be light colored as a conservation measure, as they increase light diffusion whereas dark walls absorb light.

(2) Carbon filament lamps wasteful of fuel and money. Should be replaced by Tungstens.

2. Dining Room: Primary principle -- Should be cheerfully lighted.

a. Semi-indirect lighting, available both for gas and electricity, most economical because it illuminates the entire room as well as table surface, in contrast with the dome which illuminates only the table and leaves rest of room in semi-darkness. One central fixture all that is needed for dining room of average size.

b. If lighted by side lights only, be sure shades are of translucent glassware, not silk.

3. Kitchen: Test of efficient lighting--Can you see in all the corners?

a. Should be lighted from overhead so that complete distribution of light to all corners is accomplished. Light is a discourager of dirt.

b. When fixture has 2 arms, viz, for gas and electricity, both should be equipped for use, each having light diffusing glass shade. Gas fixture should have best modern type of mantle and be equipped with by-pass or chain-pull.

c. Average kitchen needs no stronger than 40-watt lamp.

d. Have separate, full light opposite refrigerator if possible.

B. In occasionally used rooms -- viz: bedrooms, bathrooms, halls, closets, pantries, cellars.

1. General principle: Turn out or lower light every time one leaves the room even for comparatively short time.

2. When using gas.

a. Have by-pass or chain-pull on all fixtures in order that gas may be relighted instantly without touching match to it. If burner is not equipped with by-pass, most of us are actually too lazy to strike a match to relight it.

b. By-pass corresponds in gas lighting to switch in electricity as a means of cutting out lighting-waste.

c. In halls and closets, junior-size mantle is sufficient.

3. When using electricity.

a. In halls and closets, a 25-watt lamp is sufficient.

b. In bedrooms: Discourage reading in bed. It is an eye-saving as well as a fuel-saving measure.

C. Use Daylight to Fullest Extent Possible.

1. Shades should be raised after 4 o'clock on winter afternoons and daylight utilized as long as possible. Ordinarily we forget shades, shut out daylight and burn indoor light unnecessarily. We can prolong daylight at least one hour by raising shades and pushing aside hangings.

2. Window screens should be taken down as soon as no longer needed. Ordinarily screens consume 1/3 of the daylight; when dirty they consume about 1/2.

D. Interior decorating should promote light conservation

1. Wall paper, if being renewed should not be dark tones for such tones absorb light. Sunny yellow tones, French grays are best for living rooms; light blues and tans for bedrooms; white or very light tan or cream for kitchens.

2. Heavy hangings tending to shut out light should be discarded from windows. Substitute sheer curtains of light tones.

E. Cleaning

1. Clean bulbs and shades are essential to maximum lighting efficiency.

2. Institute clean-up day for fixtures. At same time, substitute Tungsten lamps for all carbon filament lamps.